

Building for Bandwidth

TrueNet® CopperTen™ Augmented Category 6 Solutions



more

adj. in greater quantity, amount, measure, degree, or number

THE GIGABIT THRESHOLD WILL FALL

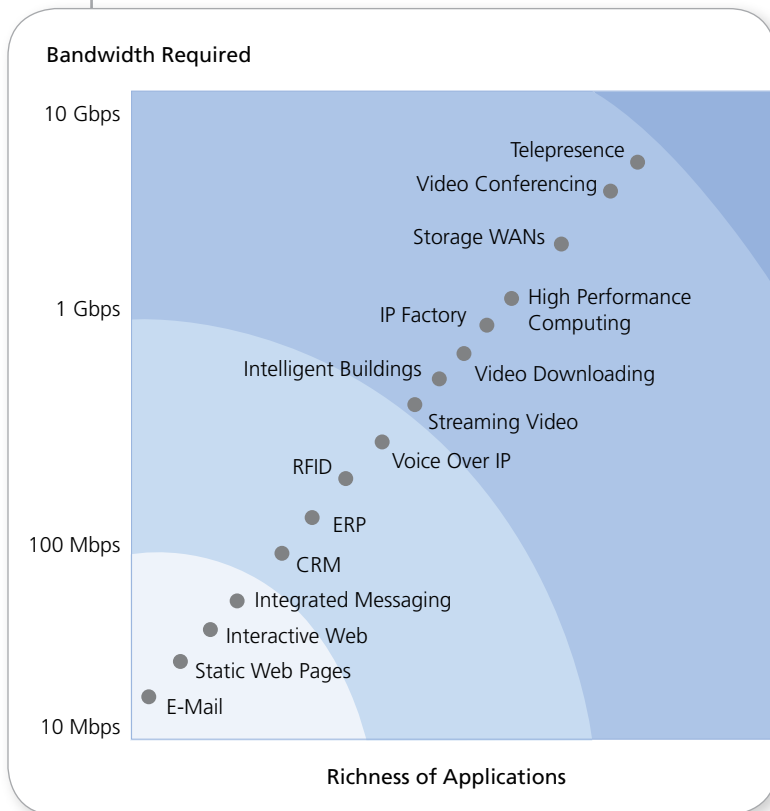
Not long ago, 100 Mbps seemed like enough. Then Gigabit seemed like enough. Today, when it comes to planning a cabling infrastructure, 10Gbps has emerged as the next step for satiating enterprise network bandwidth requirements.

There always has been—and always will be—a need for more bandwidth. Data-intensive applications such as network storage and sharing of imaging and engineering documents alone can stretch the limits of a cabling system.

Yet what promises to incite bandwidth growth on a broader scale is the explosion of IP-based applications: VoIP, WiFi, industrial Ethernet, IPTV, video conferencing, security cameras, HVAC and lighting controls, RFID, access controls, badge readers, and many others on the shelf and in the lab. This cumulative effect of more IP-based applications is propelling more data over the structured cabling system—and demanding more bandwidth to support these applications.

Historically, a LAN cabling system endures multiple replacements of switches, routers, PCs, and other active electronics. On average, the cabling system remains intact through three generations of networking gear. With a life cycle of 15 or more years, the LAN cabling system installed today is expected to support the next networking protocol. This was the case with Category 5e and Category 6. This will be true with 10Gbps cabling systems, too.

With Augmented Category 6 standards to be adopted in 2006, Gigabit is no longer the planning target for building the 15-year structured cabling system.



New emerging applications will drive networks past 1 gigabit.



adj. pertaining to the origin or beginning of something

PIONEERING AUGMENTED CATEGORY 6

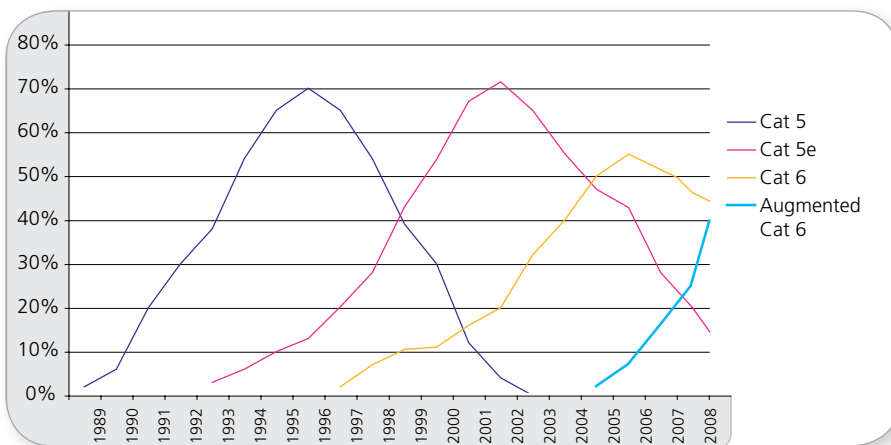
The IEEE knew that achieving 10 Gbps transmission at 100 meters required at least 18 Gbps from an Ethernet cabling solution. This Shannon’s Capacity measurement accounts for inherent noise from active hardware. However, by late 2003, the IEEE seriously considered abandoning copper for 10 Gbps Ethernet at 100 meters because no manufacturer could meet the requirements—relegating 10 Gbps to fiber or only 55 meter UTP.

Two months later, at the November 2003 meeting of the IEEE subcommittee, ADC demonstrated the world’s first design for an unshielded twisted pair cable that was fully backwards compatible with Category 6 and able to support 18 Gbps of Shannon’s capacity. As a result of this breakthrough innovation by ADC, the IEEE 10Gbps working group voted unanimously (86-0) to move forward with developing an Augmented Category 6 standard for 10Gbps transmission over UTP, now known as IEEE 802.3an.

In April 2004, ADC introduced CopperTen™—the world’s first Augmented Category 6 solution including cable, connectors, patch panels and patch cords. Today, independent lab tests confirm performance in live installations. By the end of 2005, over 20 million installed feet of CopperTen Augmented Category 6 cable confirms ADC’s leadership position with 10Gbps UTP solutions.

Following ADC’s lead, the industry is moving to adopt standards for 10G over UTP and installations are advancing globally. As early as 2007, industry analysts foresee installation of Augmented Category 6 surpassing that of Category 5e systems.

GROWTH BY CATEGORY



A world leader in high-performance network infrastructure, ADC is focused on customer-driven technology and innovation. Holding over 10,000 patents on designs by engineers throughout the United States, United Kingdom, Germany, Australia, and India, ADC continues to leverage its experienced global resources to help you maximize your network’s performance.

CopperTen™ Augmented Category 6 Solutions



in.no.va.tion

adj. introduction of new things or methods

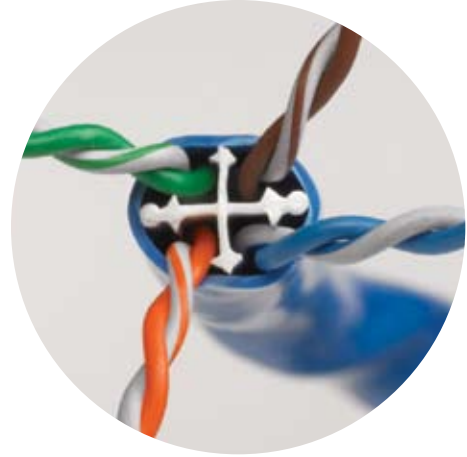
CopperTen™ Augmented Category 6 Solutions

A STAR IS BORN

Building a cabling solution for today's and tomorrow's network requires more than luck. It requires ingenuity in product development.

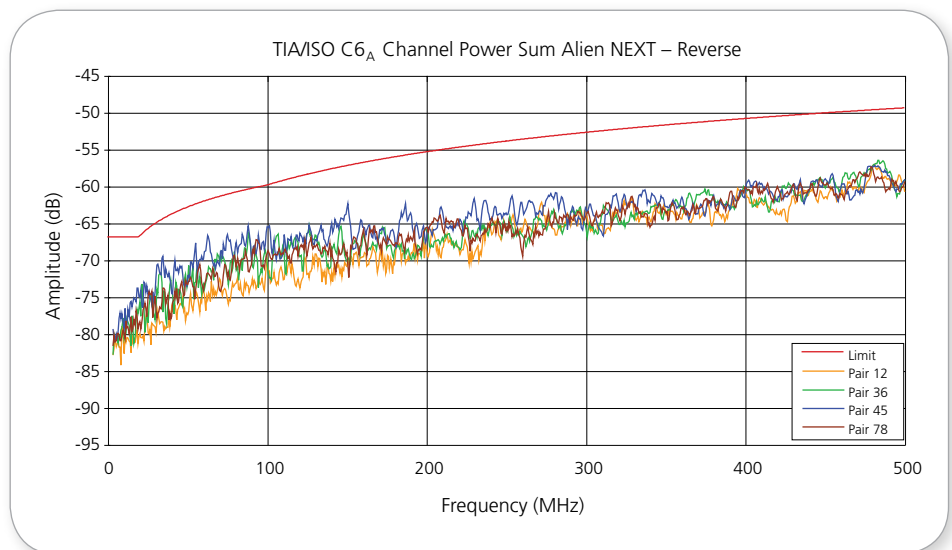
ADC was first to market with an end-to-end Augmented Category 6 solution using innovative designs that reduce the effects of both insertion (signal) loss and alien crosstalk, the signal noise generated largely from adjacent cables.

One such innovation is the patent-pending eccentric star filler used for CopperTen cable. This revolutionary, offset filler creates an oblong cable shape that produces distance between cable pairs. In a bundle, the oblong-shaped cable also creates natural separation between adjacent cables. By effectively maintaining the distance between the same twist pairs, alien crosstalk is negated in a six around one bundle. The result is outstanding electrical performance in a compact, unshielded twisted pair cable.



10G performance is assured through ADC's patent-pending CopperTen cable technology.

COPPERTEN ALIEN NEXT CHANNEL PERFORMANCE



ADVANCING THE PATCH CORD

The weakest link in any channel is the patch cord. This is especially true under the high-frequency operation of Augmented Category 6 systems.

When you build for the long term, you need patch cords as reliable as the cable behind the walls. That is why ADC patch cords are made with stranded conductors for improved mechanical durability of the much handled patch cord. This is no ordinary stranded cord because, in the manufacturing process, ADC uses a machine die to compact individual strands into a form that resembles a solid conductor. You get the best of both worlds—electrical performance of a solid conductor combined with the flexibility and durability of a stranded conductor.

There is a reason we make our own patch cords. No one does it better.



10G patch cords are different; you must use stranded conductor cords for optimal performance.

proof

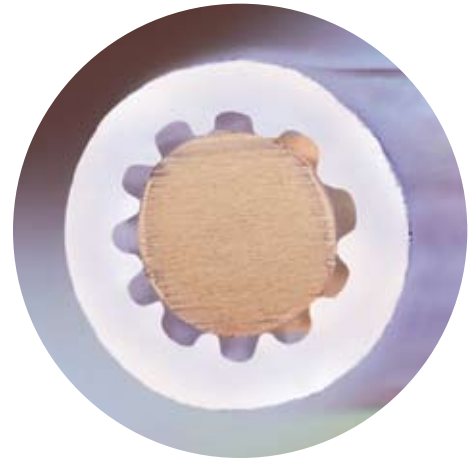
adj. of tested or proven strength or quality

CopperTen™ Augmented Category 6 Solutions

PERFORMANCE IS IN THE AIR

When it comes to conductor insulation properties, nothing beats air. It has worked for ADC's TrueNet Category 5e and 6 cables since 2002. And it is central to the construction of the compact, high-performance CopperTen Augmented Category 6 cable.

CopperTen cable uses ADC's patent-pending AirES® (Air Enhanced System) technology that combines traditional FEP with air pockets for conductor insulation. Using this superior conductor insulation, there is simply less crosstalk between pairs. One benefit is stronger signal strength. Another benefit is reduced twisting of pairs, providing lower propagation delay that is so critical for zero bit errors in data communications.

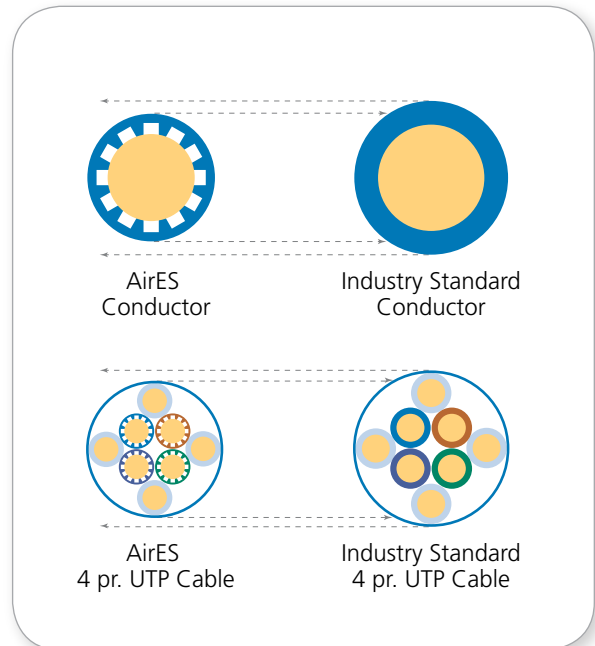


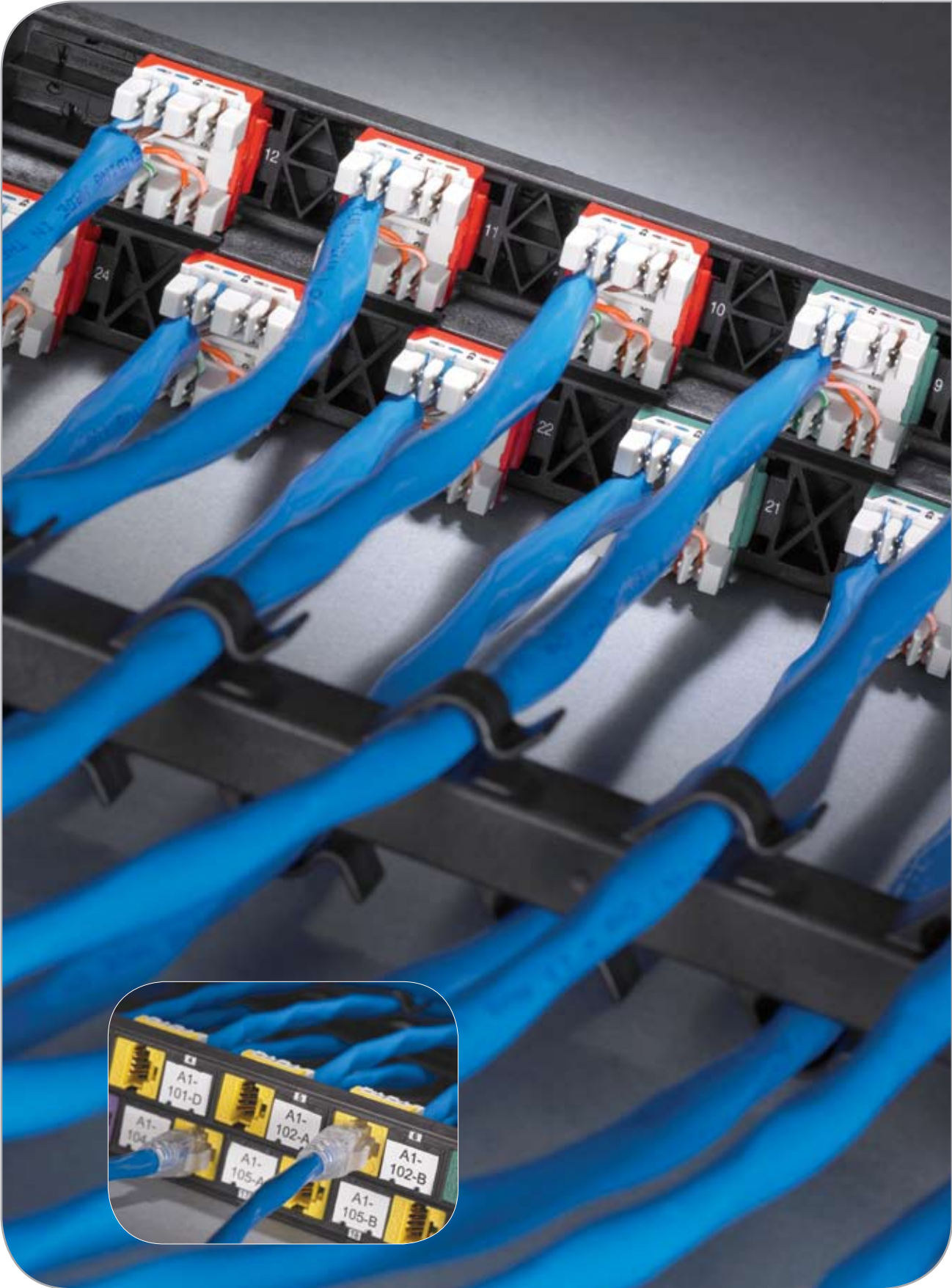
"AirES was the difference in bringing our installation in on time and under budget."

IT Director, Multinational Corporation

Air is more than the ideal conductor insulation. It is also a lightweight, highly flexible and noncombustible filler material. With AirES technology inside, the outside diameter of CopperTen cables is an average of 11% smaller than competitive Augmented Category 6 cables (.295 vs. .330). AirEs cable is proven to be lighter, more flexible, and easier to pull and route through pathways. You'll achieve higher fill densities and save on installation hours.

For ADC, the proof is in the air. The same AirES technology in use in hundreds of millions of installed feet of ADC Category 5e/6 cable is at work in CopperTen. That's proof enough.





adj. having all parts or elements, lacking nothing

INTEGRATED SOLUTION FROM ONE MANUFACTURER

ADC delivers Augmented Category 6 channel solutions with an inclusive portfolio of products designed, tested and built by a single global manufacturer. Each component features innovative designs to meet the strict performance requirements of IEEE 802.3an, TIA-B.2-10 and ISO 11801 Edition 2.1 draft standards for 10 Gbps transmission—designs that position each product for ready compliance when 10 Gbps standards are adopted.

CopperTen™ Augmented Category 6 Solutions



CopperTen Augmented Category 6 Cable

The world's first UTP cable to enable 10Gbps over a full 100 meters, CopperTen cable employs an offset star filler and proven AirES® insulation for a smaller, lightweight, high-performance cable for riser and plenum applications.



CopperTen Augmented Category 6 Patch Panels

Offset jack positioning and a composite (not metal) frame reduces alien crosstalk between connectors.



CopperTen Modular Jacks

Each modular jack is laser tuned, trimming each board to guarantee performance out to 500 MHz. LSA-PLUS® silver-plated 45° angled contacts offer the most secure and reliable connection available while allowing termination with a KRONE or a standard 110 tool.



CopperTen Stranded Patch Cords

Through an ingenious manufacturing process, CopperTen patch cords deliver the electrical performance of a solid conductor with the flexibility, mechanical durability, and peace of mind of a stranded cord.



CopperTen Augmented Category 6 Consolidation Points

A True Augmented Category 6 block solution, the CopperTen Block is a 20-pair solution ideal for consolidation points. The CopperTen block incorporates LSA-PLUS technology to offer superior performance while allowing termination with a KRONE or a standard 110 tool. The CopperTen block's unique disconnect design also allows for circuit access without disrupting cables for advanced functions like make-before-break test access.



CopperTen Augmented Category 6 Solutions are an integral part of ADC's TrueNet® Structured Cabling System, the high-performance structured cabling solution that meets all of your unique network needs.

TRUE END-TO-END SOLUTIONS

Your complete network infrastructure needs are met by a single global manufacturer. The TrueNet system includes cable, connectivity, and cable management solutions for fiber, 10 Gbps, and Category 6/5e from the data center to the desktop.

TRUE PERFORMANCE

With TrueNet, you can push networks to the performance edge. Innovative products that exceed industry standards support advanced applications today and tomorrow.

TRUE RELIABILITY

Mission-critical networks rely upon trusted TrueNet infrastructure. Built and tested in ADC's world-class facilities, TrueNet is backed by the industry's only true Zero Bit-Error Warranty for standards-based solutions that guarantees signal integrity and throughput.

CopperTen™ Augmented Category 6 Solutions



val.u.a.ble

adj. having considerable worth and usefulness



CopperTen™ Augmented Category 6 Solutions

BUY WITH CONFIDENCE

Install TrueNet CopperTen infrastructure and forget about it. That is a valuable proposition for the IT manager and the CFO.

The right structured cabling system meets today's standards yet is designed to anticipate change. CopperTen is backwards compatible to Category 6. It is also guaranteed to exceed IEEE 802.3an specifications for 10Gbps transmission for distances up to 100 meters. Guaranteed.

Even though a relatively small item in the IT budget, structured cabling can be expensive if not done properly. The operating costs of troubleshooting and maintaining a poorly installed, inferior quality system can mount. From a capital perspective, recabling a network that is only five years old offers a poor return on investment. Spotty performance, fixing bad channels, and frequent recabling are disruptive to the organization—slowing productivity in every department.

Fifteen years is indeed a long time in the IT world. Yet that should be the service life goal for the cabling plant. Invest in CopperTen and be assured of performance, reliability, and standards compatibility to support today's applications and tomorrow's technology innovations.

OUR WARRANTY, OUR RISK

Installed by a certified TrueNet® Value-Added Reseller, ADC's CopperTen system provides you with peace of mind knowing your cabling system will not be a source of failures or errors for the life of your facility.

For 20 years, a certified TrueNet installation protects you from defects in material or workmanship. All components are warranted to exceed ANSI/TIA/EIA 568-B and addendum standards. The certified system will also exceed requirements of the latest ISO and TIA drafts (TIA 568B.2 Addendum 10 and ISO 11801 Edition 2.1).

The certified system is also covered with a five-year throughput Zero Bit-Error Warranty, meeting the IEEE 802.3ab specifications.

See TrueNet CopperTen Product and System Performance Warranty for complete details.



BUILD FOR BANDWIDTH WITH COPPERTEN

No manufacturer has sold and installed more feet of cable or more end-to-end channels of Augmented Category 6 systems than ADC. We pioneered 10Gbps Ethernet over UTP. We've had a product on the market longer than any manufacturer. Our warranty and reputation remove any doubts that CopperTen is the correct solution for a cabling plant that will support your network requirements today and in the future.

We perform for every one of our clients every day. Read what they have to say:

Engineering & Design Firms Deploy ADC's CopperTen

"We operate a variety of CAD systems that require us to transfer multi-megabit files all over the place. In fact, we generate 25 gigs of new or revised data each week. As standards are changing, we have to stay current and competitive. We have to be ready for the future by investing in the best infrastructure, such as ADC's CopperTen. We get paid by the hour, and the more work we produce during that hour, the more value our customers receive. We expect this network system to last and are pleased we won't have to rewire again for years."

Business Development Director, Synchroness, Denver

Banks and Financial Institutions Deploy ADC's CopperTen

"With the rapid growth in Internet banking, it has been necessary for us to explore the most robust, high-performance and future-proof technology available in the industry and we chose ADC's CopperTen. We strongly believe that deploying CopperTen is crucial to delivering mission-critical services to our retail and corporate customers now and in the future."

Network Architect, ABSA Bank, South Africa

Colleges and Universities Deploy ADC's CopperTen

"Access to video is an important part of just about every curriculum. Students in digital media design and other fields require access to very large files. Our goal is for students to access their applications from anywhere on the campus. ADC's CopperTen allows us to not only deliver advanced services in the classroom that benefit our students and faculty, but also to consolidate four telecom closets into one by eliminating unnecessary active equipment. This is a substantial financial benefit to the university."

Technical Services Manager, The Ohio State University



TrueNet CopperTen products are available through these ADC partners:

Premier National

Anixter Inc.	800-323-8166	www.anixter.com
Graybar	800-GRAYBAR	www.graybar.com

Preferred National

Accu-Tech Corp.	770-740-2240	www.accu-tech.com
-----------------	--------------	-------------------

Premier Regional

Famous Telephone Supply	800-321-9122	www.famoustelephone.com
John B. Rudy Co.	310-639-0594	www.jbrudy.com

Preferred Regional

Best Enterprises	800.657.0172	www.best-ent.com
Metro Wire & Cable	978-562-6288	www.metwire.com



Web Site: www.adc.com

From North America, Call Toll Free: 1-800-366-3891 • Outside of North America: +1-952-938-8080
 Fax: +1-952-917-3237 • For a listing of ADC's global sales office locations, please refer to our Web site.

ADC Telecommunications, Inc., P.O. Box 1101, Minneapolis, Minnesota USA 55440-1101
 Specifications published here are current as of the date of publication of this document. Because we are continuously improving our products, ADC reserves the right to change specifications without prior notice. At any time, you may verify product specifications by contacting our headquarters office in Minneapolis. ADC Telecommunications, Inc. views its patent portfolio as an important corporate asset and vigorously enforces its patents. Products or features contained herein may be covered by one or more U.S. or foreign patents. An Equal Opportunity Employer.

102333AE 3/06 Original © 2006 ADC Telecommunications, Inc. All Rights Reserved